Best Barns USA
Assembly Book

Revised July 27, 2014

the Homestead-R 16'x 12'

Manufactured by Reynolds Building Systems, Inc.

205 Arlington Drive Greenville, PA 16125 724-646-3775

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IMPORTANT INFORMATION ABOUT YOUR SHED KIT

Thank you for purchasing our shed kit. These instructions will construct a 12'x16' building. **If you received two books, use the one with the latest revision date.**

Read the instructions before starting the assembly of the building. If you have any questions about assembling the kit, call 800-245-1577. Business hours (8:00-5:00 ET) Monday thru Friday. After business hours call 724-866-HELP (4357) or email to help@barnkits.com.

The material that is included in our kit is listed on the back page. The siding, roof sheathing and the optional floor package, *if purchased*, will be supplied by a local lumber supplier.

Our kit does not include the shingles, the quantity needed is listed on the back page. The siding is primed. You will need to apply a finish coat using latex acrylic paint.

Some of the framing lumber was used in the shipping pallet. Unpack the material from the pallets, then unscrew the 2x4s. The bit for the screws is packed in the hardware bag. This material is used for wall bracing and loft beam support boards.

Most buildings are installed on a wood floor and the siding was designed to extend over the wood flooring. If the foundation is a concrete floor cut the siding flush with the bottom of the wall plate to prevent the concrete from contacting the siding.

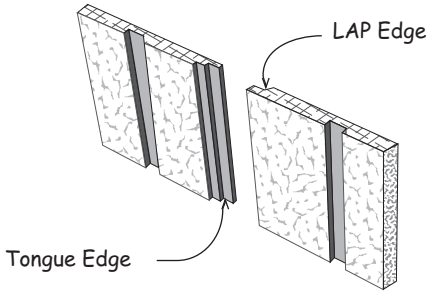
Stacking the boards, according to size, will make them easier to find when needed. Some boards have colored ends. All the wall studs have black ends, stack these boards together**.** **Do Not** discard any material until your building is complete.

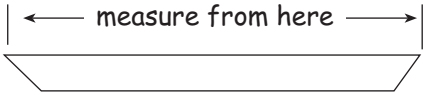
Before you begin construction, be sure to study this assembly manual. Also, obtain a building permit and check all pertinent building code regulations.

Thank you for your purchase.

Bill & Linda Rinella, owners

To identify which edge we want you to use, we will refer to the edge as either the 'LAP' Edge or the Tongue Edge. Nail siding with 8d galv. nails, spaced 12" apart.





When measurements are given for a board length or width, it is from the longest side.

Tool List

- ❑ Hammer & Hand Saw
- ❑ Framing Square & Level
- ❑ Power Circular Saw
- ❑ Power Drill/screwdriver
- ❑ Measuring Tape
- ❑ 2-8' Step Ladders

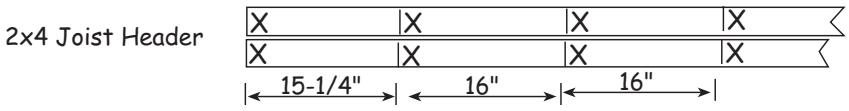
Always wear safety glasses when cutting or nailing!

Constructing Details for Deluxe Floor System

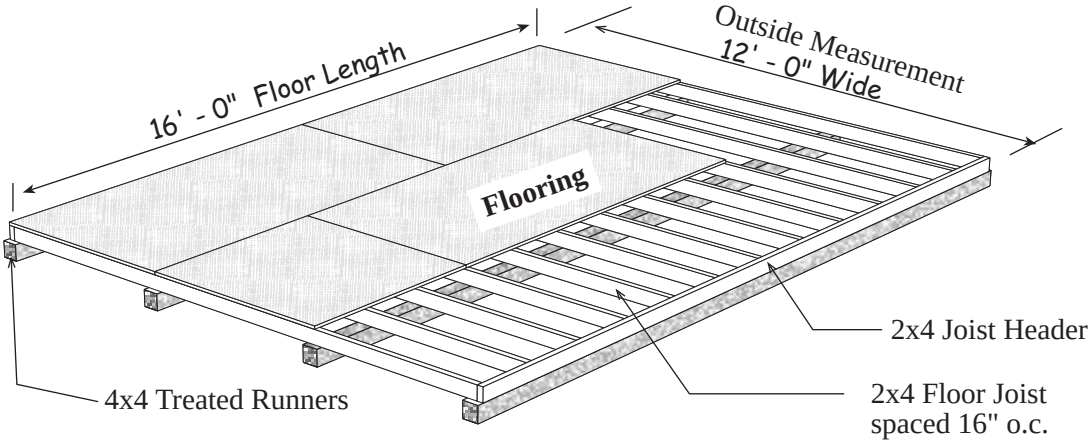
Deluxe floors include 4x4 runners, standard floors do not

Foundation size is 12'-0" x 16'-0". Check local building codes in your area, the construction may have to change. For a concrete slab, install sill sealer as a moisture barrier between the concrete and the wall plates. Foam sill sealer can be purchased at home centers in rolls 3-1/2" or wider.

1. Cut (2) two 2x4 joist headers to 16' - 0". Layout for 16" on center joist spacing. 'X' marks where floor joist will be placed.

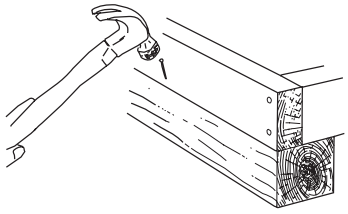


2. Cut 2x4-12' floor joist to 11'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 12'-0" building width.*



It is important that the floor be level and square. Square the floor as follows: before nailing the flooring, measure the floor diagonally (corner to corner). Then measure the opposite corners. These measurements will be the same if the floor is square.

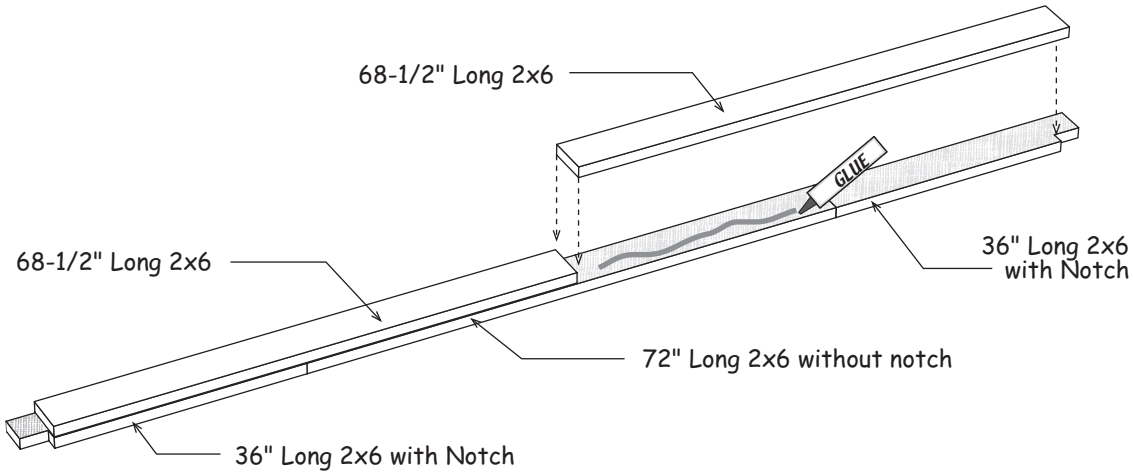
Material Description	12' x 16' shed
2x4 Joist Headers	2 pcs. 16'
2x4 Floor Joist	13 pcs. 12'
4x4 Treated Runners	8 pcs. 8'
Flooring 5/8" or 3/4"	6 pcs. 4x8
Screw Floor Nails	2 lb. 8d
Galv. Box Nails	2 lb. 16d



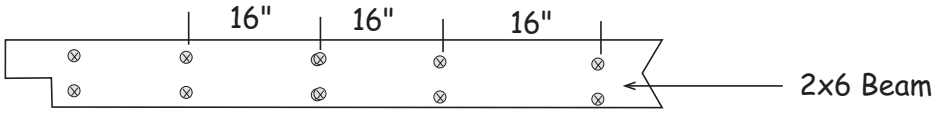
Nail 2x4 joist headers and floor joist to 4x4.

Step 1 Assemble Loft Beams

1. Locate (2) two 36" long 2x6 boards, *with a notch*, on one end and a 72" long 2x6 board without a notch. Position these 2x6 boards on a flat surface as shown below.
2. Apply a coat of glue to the top surface using wood glue supplied in kit.
3. Locate (2) two 68-1/2" long 2x6 boards without a notch . Install these 2x6 boards, over the bottom boards.



4. To provide additional strength, install 2-1/2" wood screws spaced 16" apart as shown below.

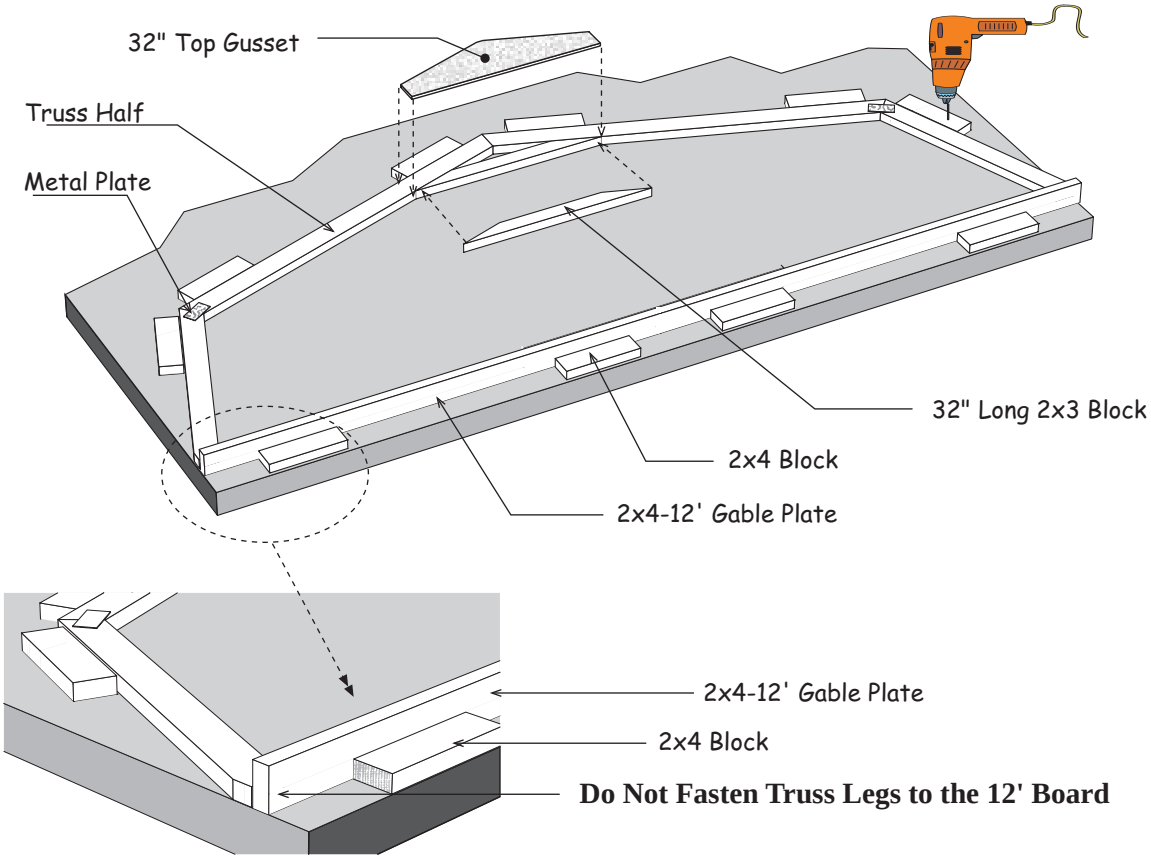


5. Repeat steps to assemble another 2x6 beam.

Step 2 Assemble Trusses

☞ Building Tip: To aid in the assembly of the trusses, temporarily screw 2x4 blocks to the floor. There are short 2x4s, *that may have an angle on one end,* supplied in kit. This will insure that all the trusses are assembled the same.

1. Framing lumber may be shipped long; cut (2) two 2x4-12' boards to 12' - 0". Position one on the floor with the narrow edge side down. Use 2x4 blocks to hold the 2x4 plate straight.
2. Position (2) two truss halves (*2x4s connected with a metal plate*) with the short legs against the 2x4 Gable Plate : **DO NOT** attach the Gable Plate to the truss. It is temporarily used to help hold the 2x4 truss parts in place. It will be attached later when building the roof gables.
3. Secure 2x4 blocks around the perimeter of truss to hold truss parts in place.

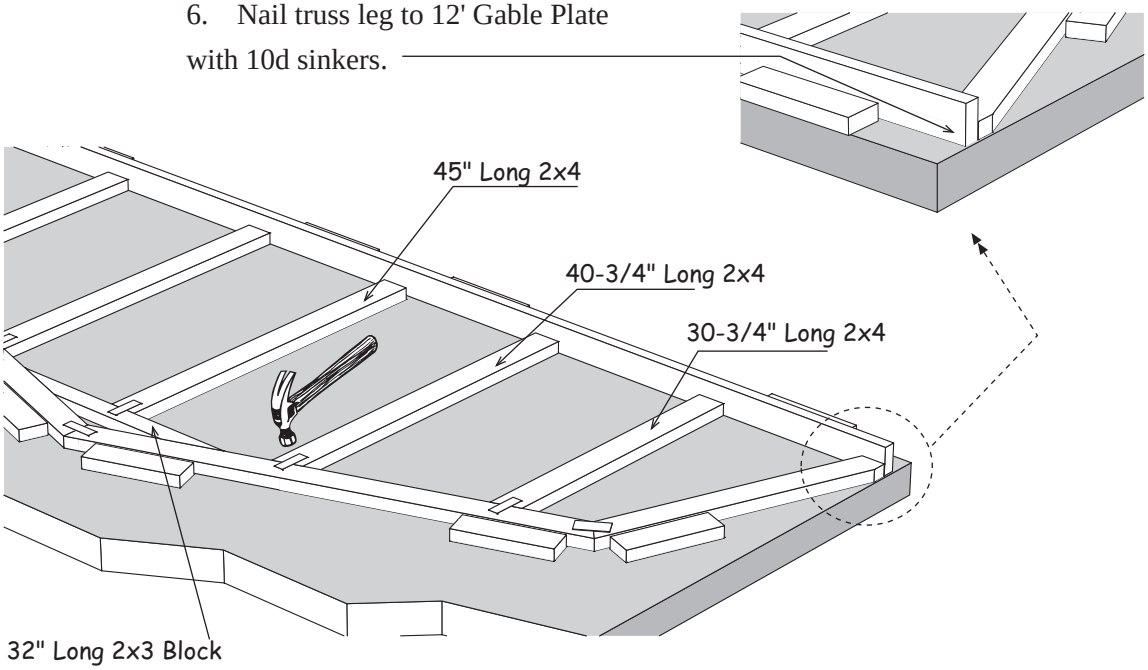


4. Nail the 2x3-32" board where the trusses meet at the top. Secure with a 32" wood gusset. Apply wood glue between the gusset and 2x4s. Nail gusset using (20) twenty 6d common nails.
5. Turn the truss over and install a gusset to the other side of the truss.
6. Repeat to assemble (6) six more trusses.

Step 3 Assemble Roof Gables

1. Position (2) two truss halves together and secure the top with a 1"x4" barbed metal plate.
2. Nail a 32" long 2x3 board to the truss at the ridge with 10d sinkers.
3. Cut a 45" long 2x4 to length and install in the center of the gable. Secure the bottom by nailing through the plate with (2) two 10d sinkers. Secure the top with a barbed metal plate.
4. Install two 40-3/4" long 2x4 gable studs in the center of the gable frame. Secure the same procedure as the center 2x4.
5. Install (2) two 30-3/4" long 2x4s the same way.

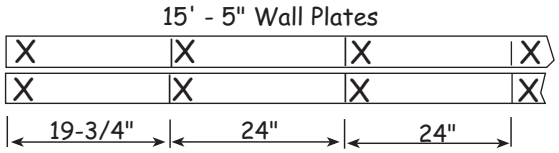
6. Nail truss leg to 12' Gable Plate with 10d sinkers.



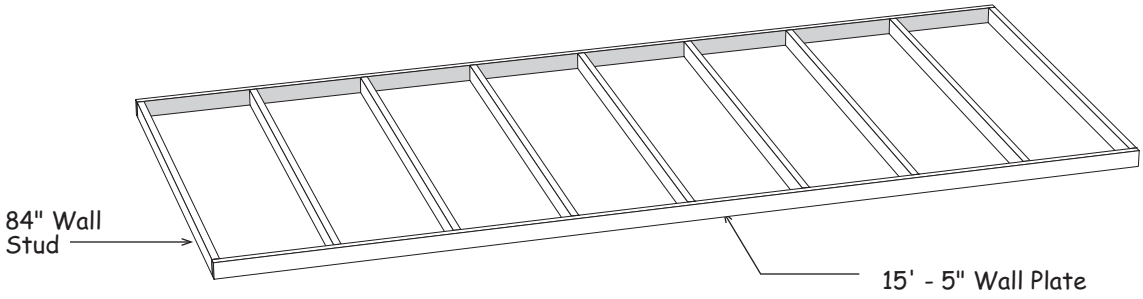
7. Repeat steps to assemble the other roof gable.
8. Remove 2x4 blocks and set gable frames aside.

Step 4 Assemble Back Wall

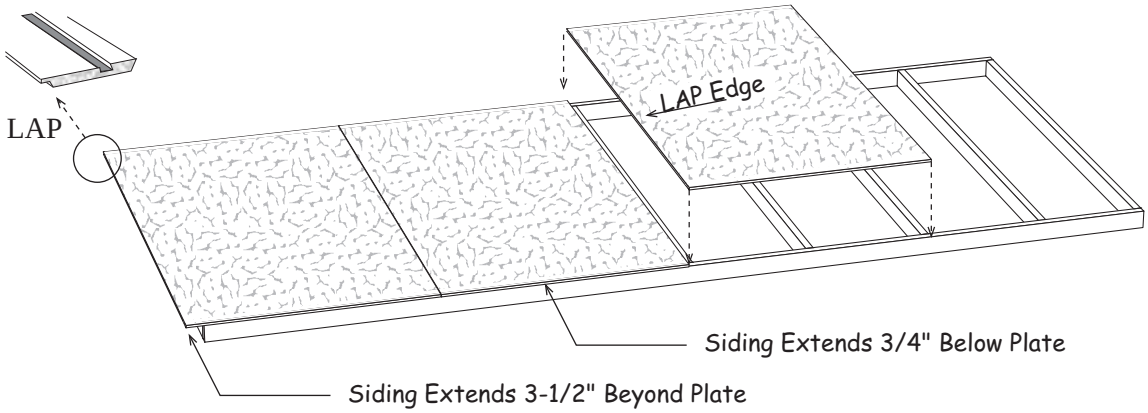
1. Cut (2) two 2x4-16' boards to 15' - 5".
2. Position these boards together and indicate with 'X' marks, where the wall studs will be located.



3. Install 84" long wall studs between the wall plates. The 2x4 wall studs will cover the 'X' marks on the plates. Use (2) two 10d sinkers at each end of stud.
4. Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square*.

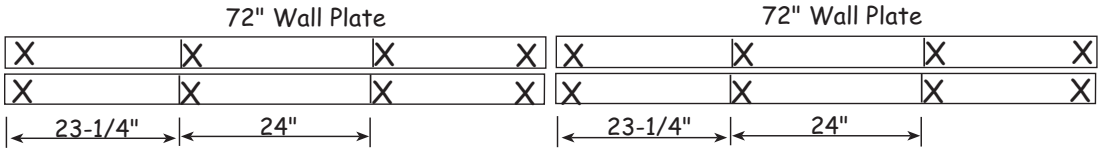


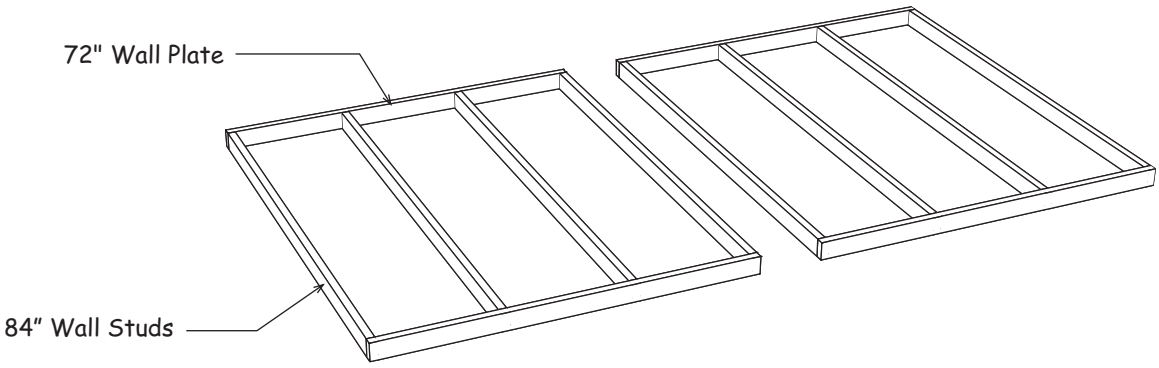
5. If you are installing the building on a wood floor, cut (4) four 4x8 siding panels to a length of 87-3/4". If you are installing the building on a concrete slab, cut the siding panels to a length of 87".
6. Install the first siding panel with the 'LAP' edge extending 3-1/2" beyond the left wall stud and flush with the top of the 2x4 plate. If you are installing the building on a wood floor the siding will extend 3/4" below wall plate. Use 8d galv. nails spaced 12" apart.
7. Install another siding panel. You can install the last (2) two siding panels now or after the wall is erected on the floor so the panel will be easier to handle.



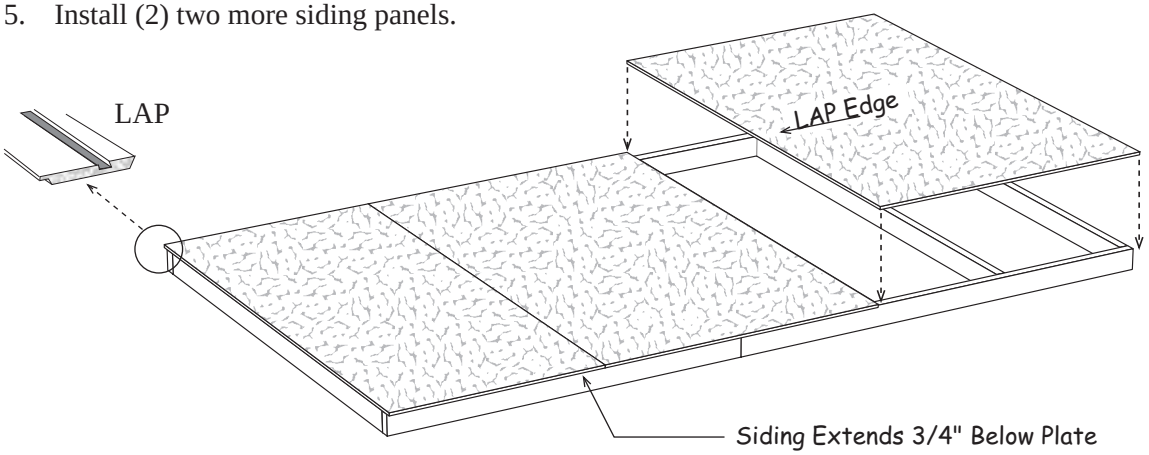
Step 5 Assemble 12' End Walls

1. Position (4) four 72" long 2x4 boards together and indicate with 'X' marks where the wall studs will be located.
2. Install (8) eight 84" long wall studs, between the wall plates, over the 'X' marks and where the plates meet. Use (2) two 10d sinkers at each end of stud. Nail wall sections together using 10d sinkers.





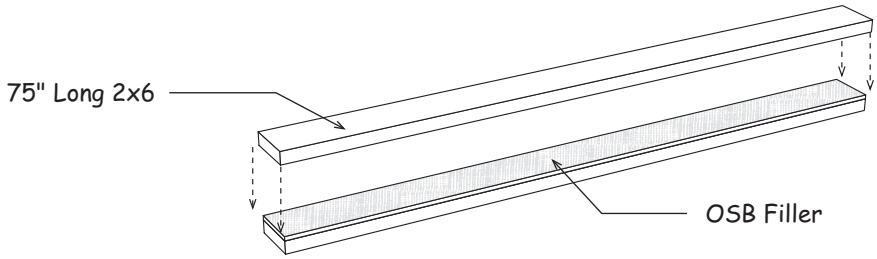
3. Square the wall frame. Cut (3) three 4x8 siding panels to a length of 87-3/4" in length. (87" for a concrete slab)
4. Install the first siding panel with the 'LAP' edge flush with the left wall stud and extending 3/4" below the bottom plate.
5. Install (2) two more siding panels.



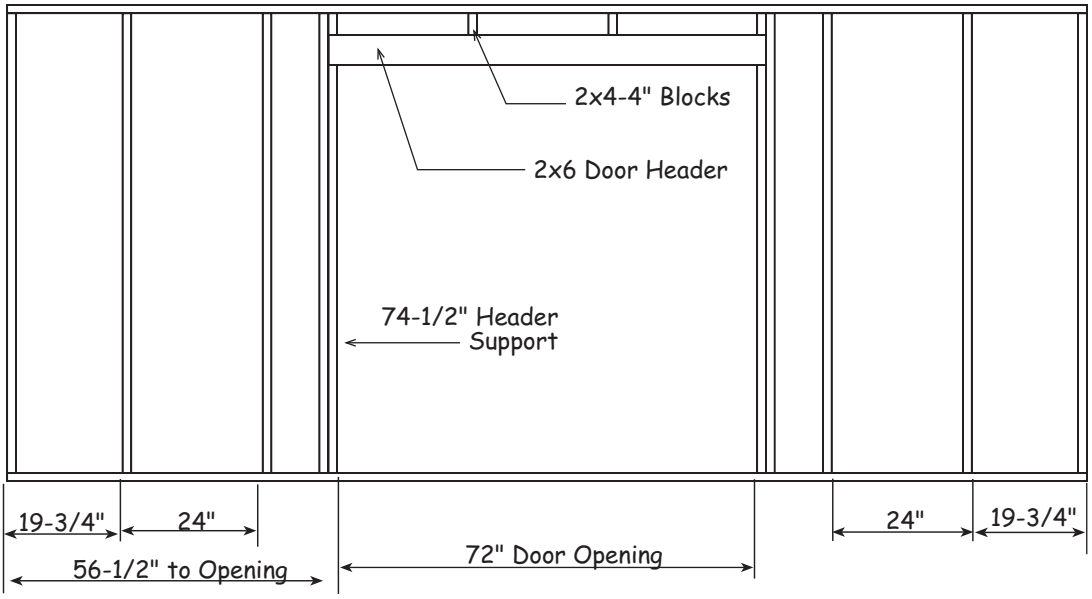
6. Repeat to build another 12' end wall panel.

Step 6 Assemble Front Wall

1. Assemble door header using (2) two 75" long 2x6 boards and a 75" OSB filler panel. Apply wood glue between OSB and boards. Nail header together with 10d sinkers. Use (12) twelve nails on each side.



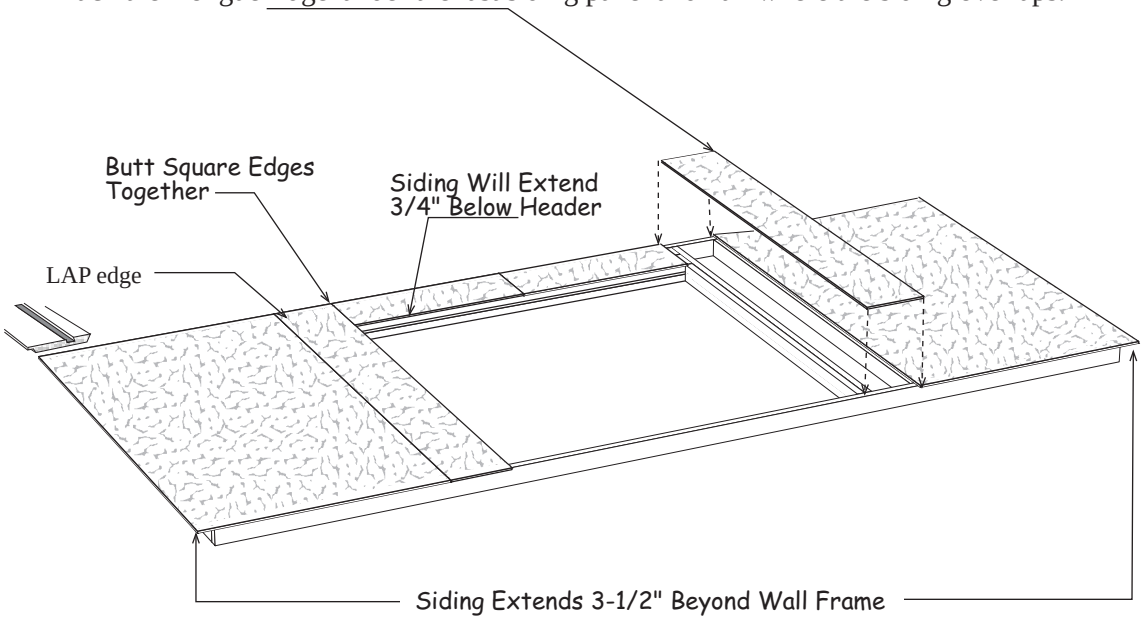
2. Cut (2) two 2x4-16' boards to 15'-5". Install (6) six 84" long wall studs between the boards as shown below.



3. Install (2) two wall studs with 74-1/2" long header supports attached and a 2x6 door header.
4. Install 2x4-4" blocks, *included in kit*, over the door header.

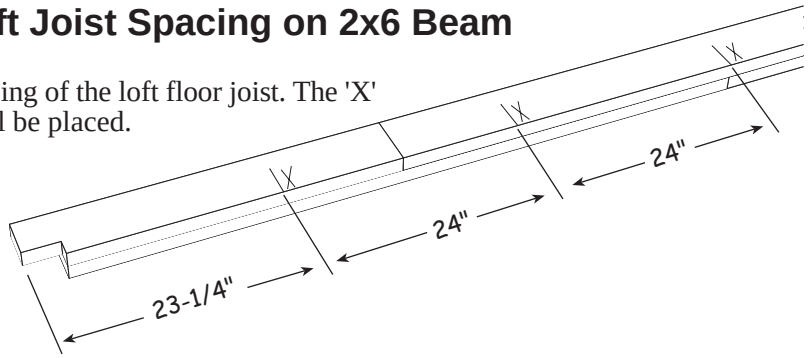
Step 7 Install Siding on Front Wall

1. Cut (3) three 4x8 siding panels to a length, 87-3/4" or 87". Install the 'left' siding panel with the 'LAP' edge extending 3-1/2" beyond the left side of the wall frame.
2 Cut a siding panel, from our kit, to fit between the panel installed above and the side of the door opening. Measure and cut siding from the 'LAP' edge.
3. Install the siding panels, from our kit, over the door opening. The siding should extend 3/4" below the door header and flush with the top wall plate.
4. Install a full width siding panel on the right side of the frame. The siding should extend 3-1/2" beyond the wall frame. Do not nail along the 'LAP' edge until installing the last siding panel.
5. Cut another siding panel, *from the 'Tongue Edge'*, flush with the right side of the door opening. Tuck the 'Tongue Edge' under the last siding panel and nail where the siding overlaps.



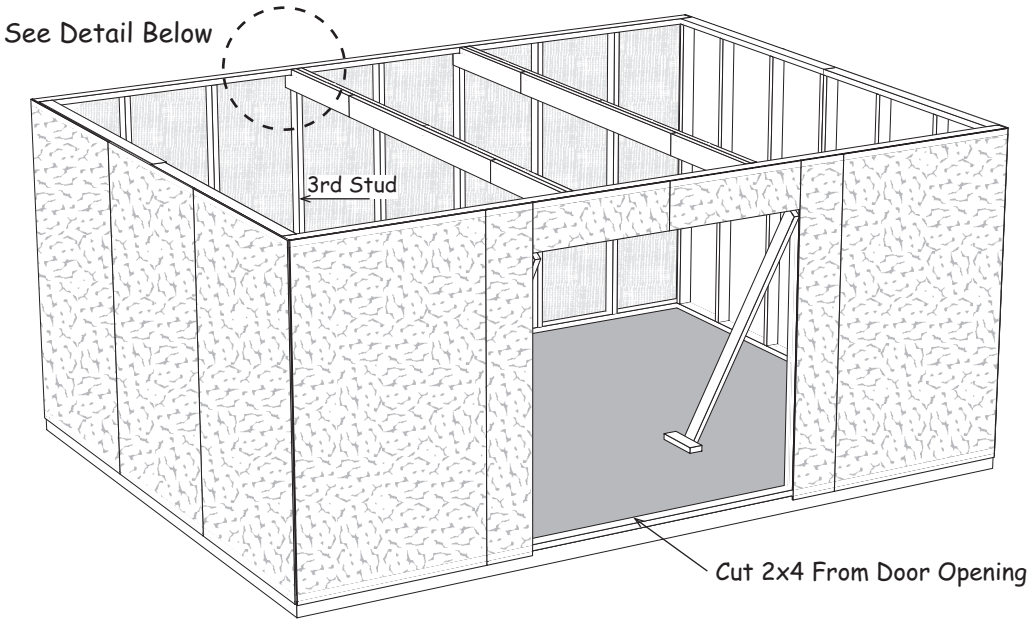
Step 8 Layout Loft Joist Spacing on 2x6 Beam

Layout both beams for the spacing of the loft floor joist. The 'X' marks where the floor joist will be placed.



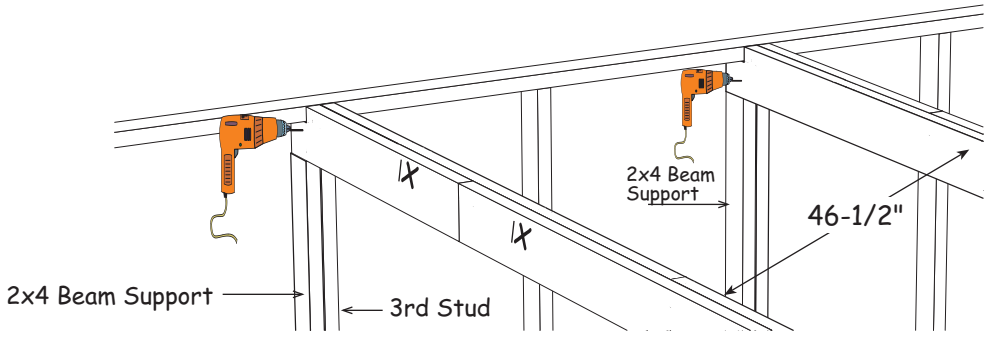
Step 9 Set Walls & Beams

1. Secure wall panels together at the corners. Use (4) four 10d coated nails per corner. Nail wall panels to the wood floor. Nail through the bottom plate. Space 10d sinkers 24" apart.
2. If necessary, install the last siding panels on the back wall frame.
3. Disassemble the shipping pallet and use (2) two 2x4s to brace the front wall straight.



4. Install a 2x6 beam to the 3rd stud, the other end will rest on the door header, see detail on **Step 11**. Secure the beam to wall stud using 2-1/2" wood screws. Cut to length and install a 2x4, *use one from the pallet*, under the beam, against the stud.

Important: When installed properly the 'X' marks will be facing the end wall and there will be 66-1/4" between the end wall and the beam.

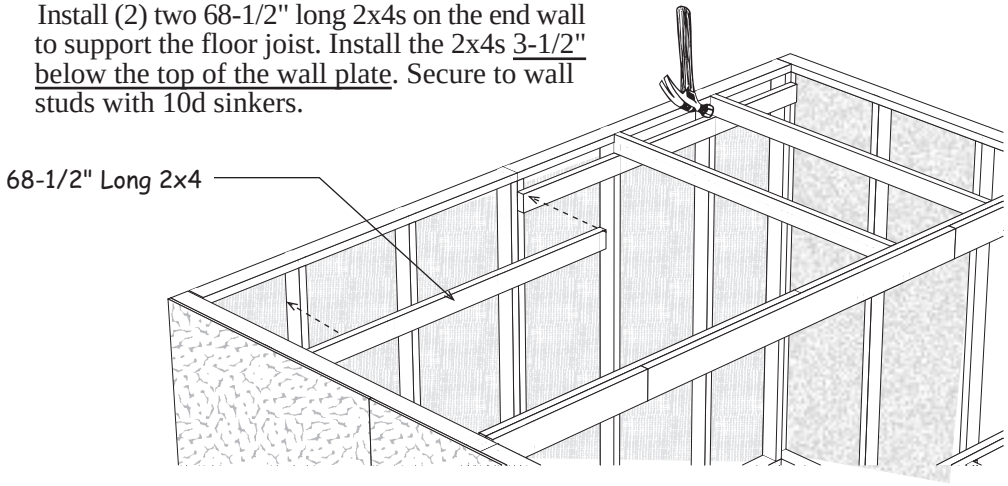


5. Install the other beam in the same manner.

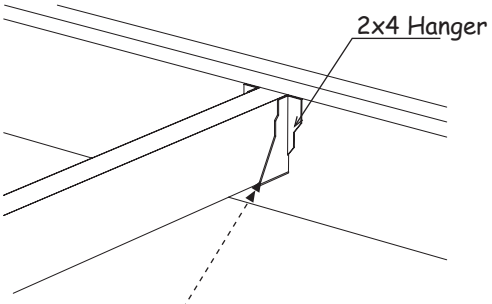
Step 10 Install Loft Floor Joists

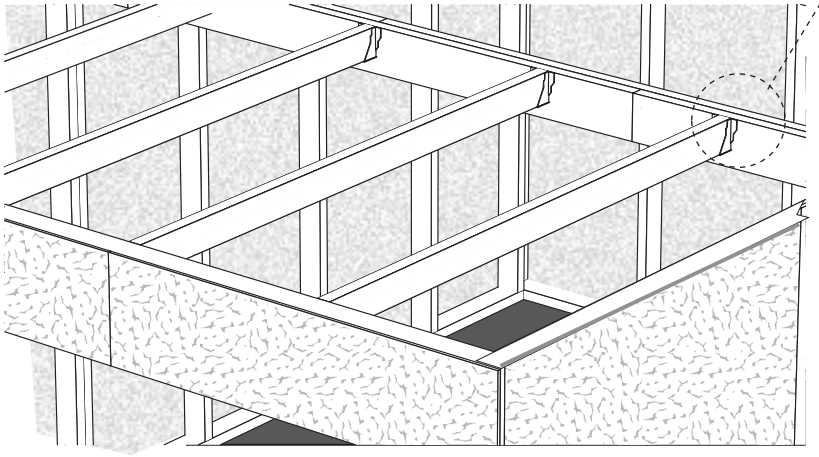
1. Cut (4) four 2x4-6' boards to a length of 68-1/2.

2 Install (2) two 68-1/2" long 2x4s on the end wall to support the floor joist. Install the 2x4s 3-1/2" below the top of the wall plate. Secure to wall studs with 10d sinkers.



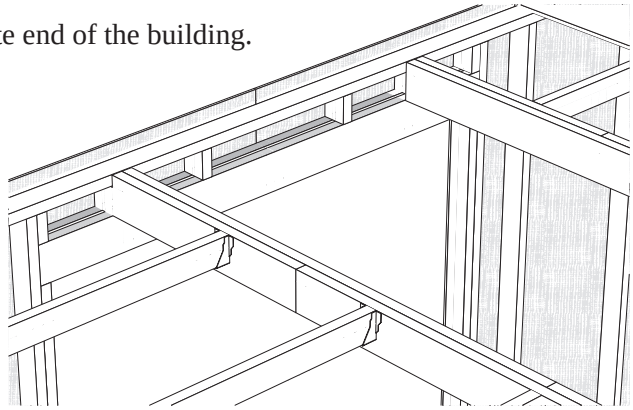
3. Install 66-1/4" long 2x4 floor joist. Secure one end to the loft beam using 2x4 hangers over 'X' mark. Use 1-1/2" hanger nails. Toenail other end on top of the 68-1/2" long 2x4s installed on the wall.





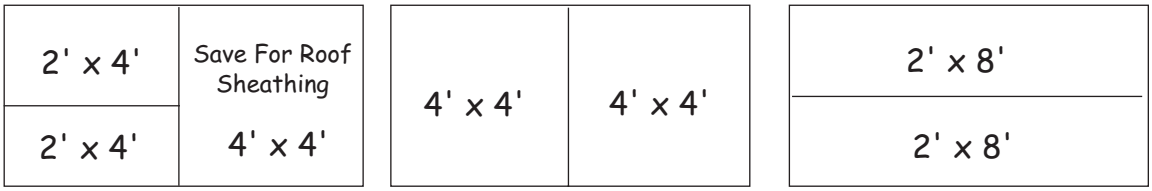
Step 11 Install Loft Floor Joist Continued

3. Install loft floor joist on the opposite end of the building.



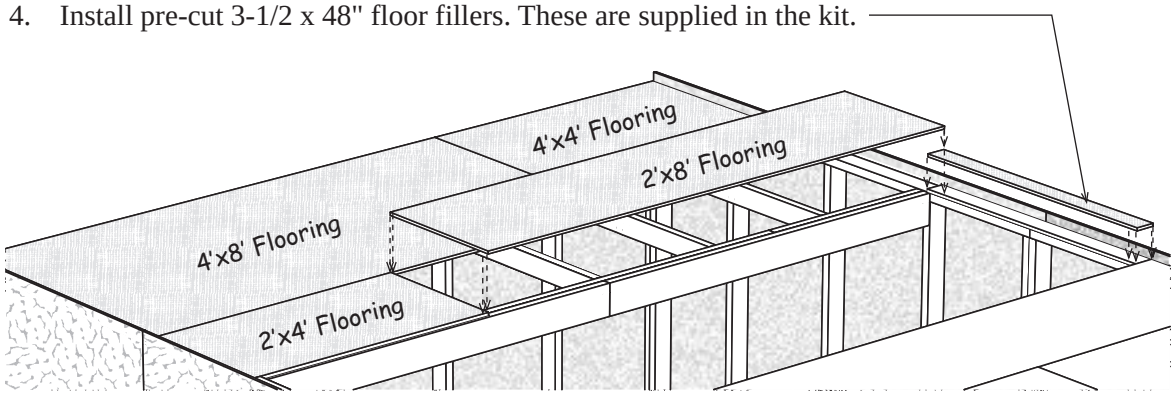
Step 12 Install Loft Flooring

1. Gather (5) five 4x8 sheets of 7/16" OSB sheathing.
2. Cut (3) three 4x8 sheets per the sizes shown below.



3. Install flooring per layout below using 7d sinkers spaced 12" apart.

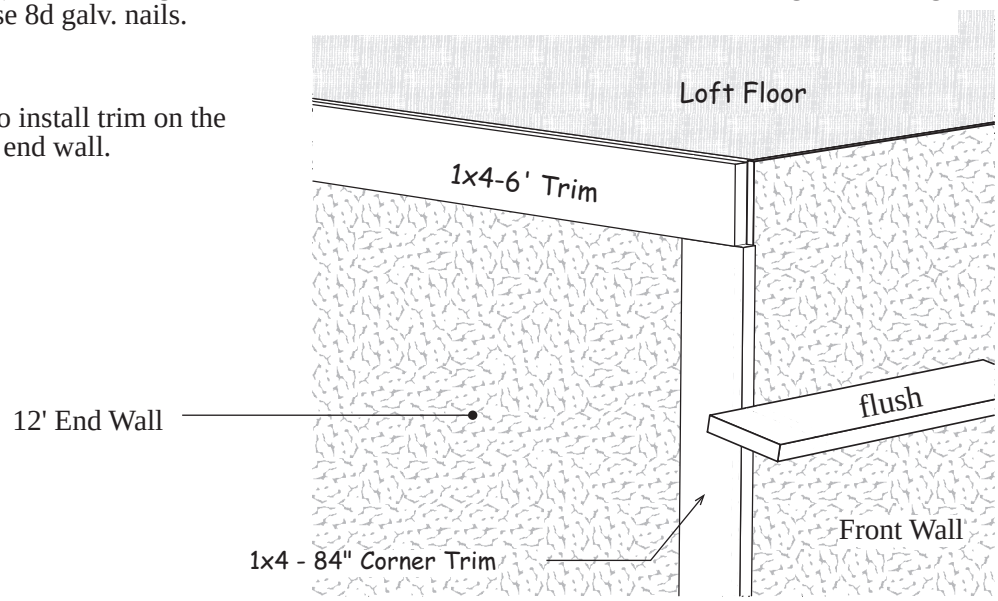
4. Install pre-cut 3-1/2 x 48" floor fillers. These are supplied in the kit.



5. Install loft flooring at the opposite end of the building.

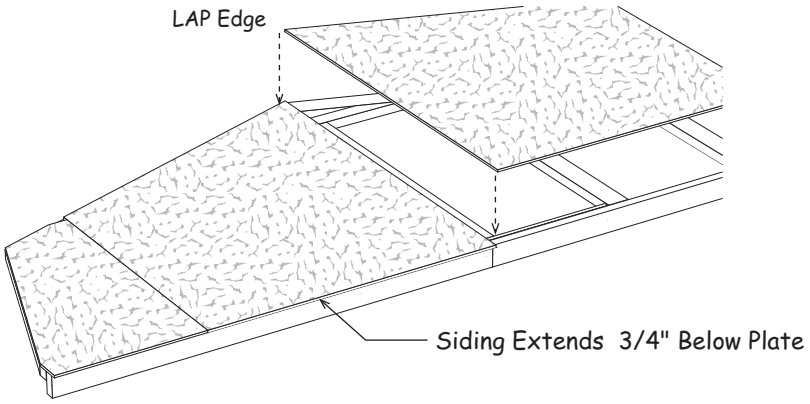
Step 13 Install Wall Trim

1. Install (2) two 3/4" x 3-1/2" x 72" long trim boards across the top of the end wall. Start in the center of the end wall, the trim boards will not be flush with the siding on the long walls. Install the boards flush with the top of the loft flooring. *See diagram below.*
2. Install (2) two 84" long 1x4 corner trim on the end wall, flush with the siding on the long walls. Use 8d galv. nails.
3. Repeat to install trim on the opposite end wall.



Step 14 Install Siding on Gables

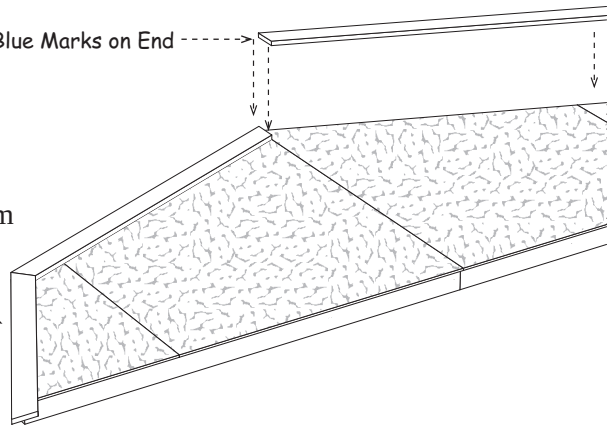
1. Install pre-cut siding on one of the gable frame.



2. Install pre-cut siding on the other gable frame.

Step 15 Apply Trim to Roof Gables

1. Install (2) two 61" long 1x4 gable trim flush with the top edge of the gable. Install the ends with blue marks together. Install trim with 8d galv. nails.

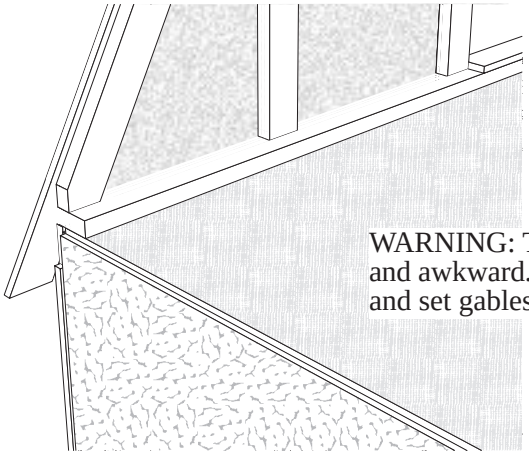


2. Install (2) two 42-1/2" long 1x4 gable trim flush with the side edge of the gable.

3. Install trim on the other gable frame.

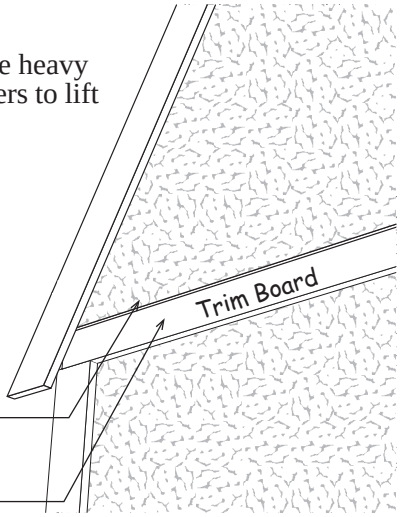
Step 16 Install Roof Gable on Left End Wall

1. Install a roof gable on the left end wall, facing the doors. The siding on the gable must extend over the 1x4 trim board, not behind it. *See detail 'D' below.* Nail bottom gable to loft flooring. Use 10d nails.



WARNING: The gable ends are heavy and awkward. You'll need helpers to lift and set gables in place.

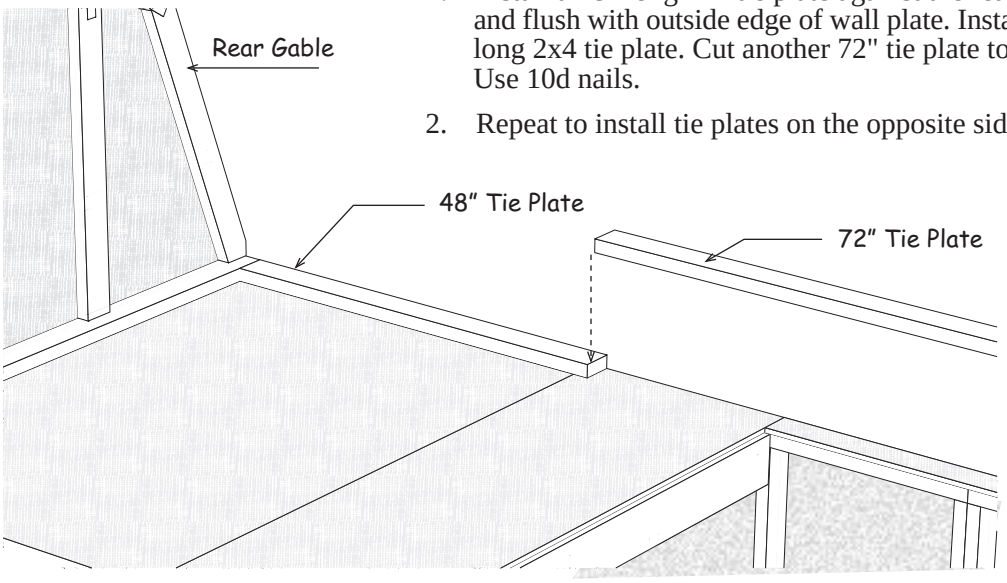
DETAIL 'D'



2. Nail along bottom edge of siding with 8d galv. nails.

Bottom Edge of Gable Siding Overlaps Top Wall Trim

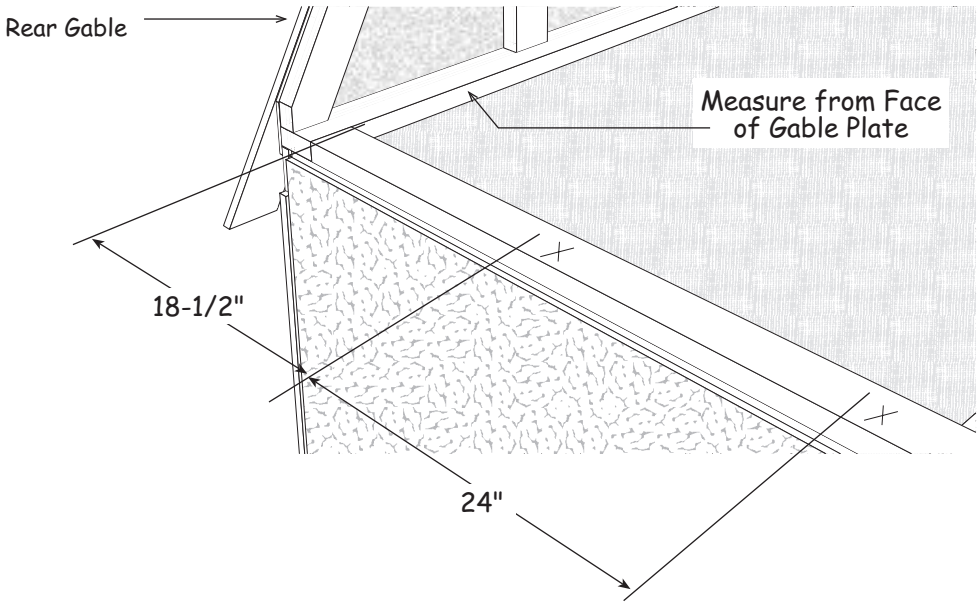
Step 17 Install 2x4 Truss Plates



1. Install a 48" long 2x4 tie plate against the rear gable and flush with outside edge of wall plate. Install a 72" long 2x4 tie plate. Cut another 72" tie plate to finish. Use 10d nails.
2. Repeat to install tie plates on the opposite side.

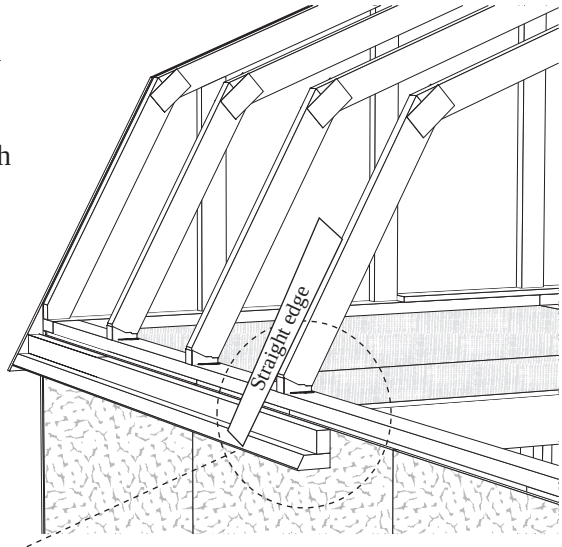
3. Layout the truss spacing. Measure from the inside face of the 2x4 **gable plate** to mark the location of the first truss. The last truss space will be more than 24".

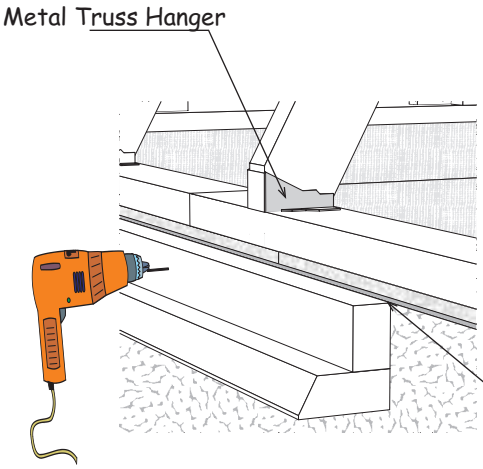
   Important: When marking the opposite wall, place the 'X' mark on the same side of the line so your trusses are parallel when they are installed.



Step 18 Install Trusses & Soffit Boards

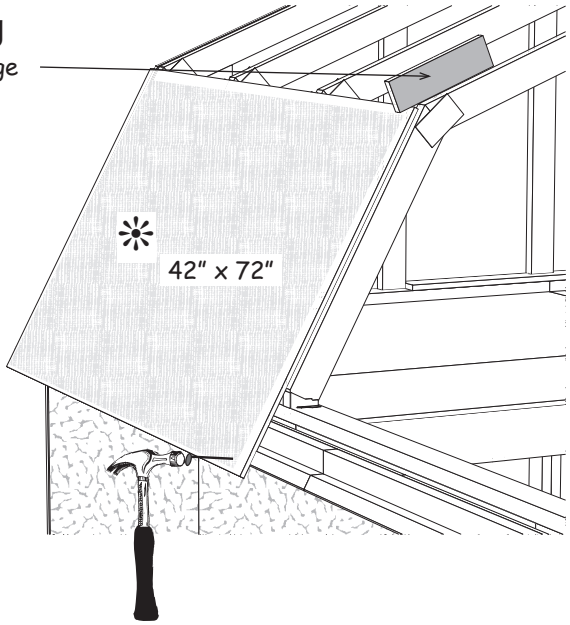
1. Place trusses over the 'X' marks and secure trusses to 2x4 tie plate using 2x4 hangers and 1-1/2" hanger nails.
2. Locate 65-1/4" long soffit boards that have a beveled edge. Install one of these boards flush with the top of the siding and butting against the gable trim. Secure soffit board to the top wall plate with 3" long screws.
3. Install (2) two more soffit boards.





Before installing the overhang to the sidewall, use a straight edge to make sure the trusses are align with the bevel cut on the overhang board. Adjust up or down if necessary.

Step 19 Install Roof Sheathing



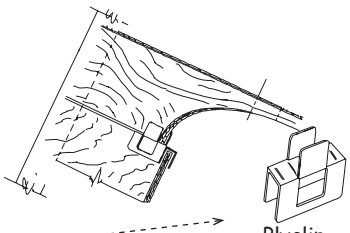
1. Install a 42" x 72" OSB roof panel flush with the face of the rear gable trim. Use a straight edge to align the top of the sheathing with the top of the truss. Continue adding sheathing following the layout on the next page. Use 7d sinkers, spaced 12" apart.
2. Repeat step for opposite side.

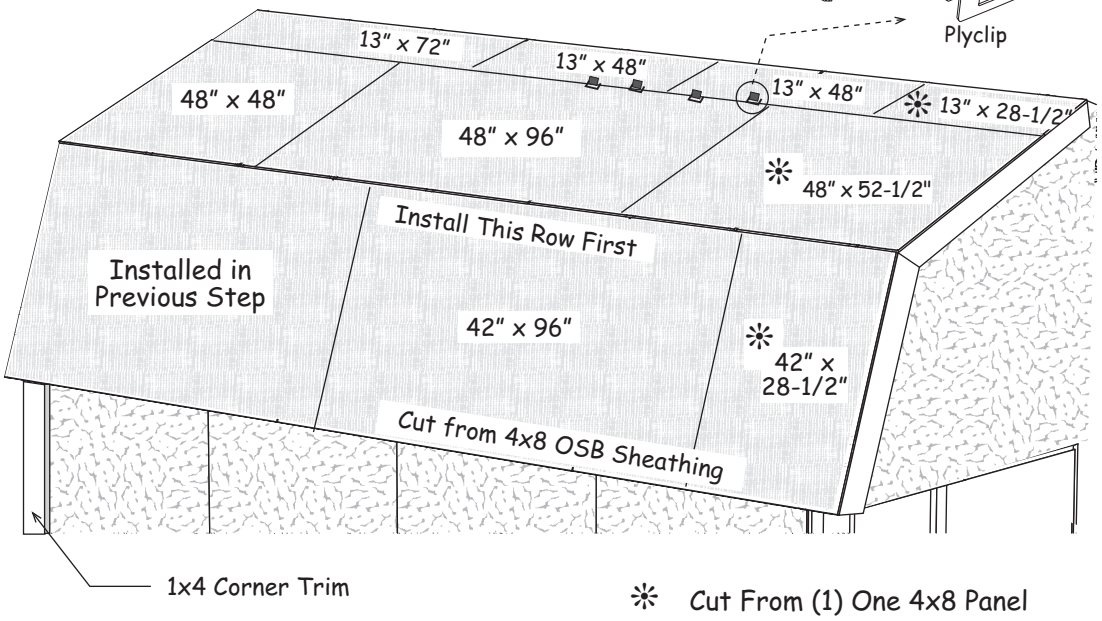
✳ Removed From Shipping Pallet

To prevent the nails from protruding thought the bottom of the soffit board, do not nail at an angle when nailing roof sheathing to the soffit boards.

Step 19 Install Roof Sheathing Continued

3. Finish installing the lower row of roof sheathing.
4. Select the 4x4 sheathing panel from **Step 12**. Cut (3) three 13" x 48" pieces from this panel. Using these panels and the roof panels from our kit, install roof panels over the upper roof trusses. The top row of roof sheathing will be about 1" below the ridge to allow for ventilation. Insert (2) two plyclips onto roof sheathing between every truss on the top row.
5. Repeat for the opposite side.
6. Install 1x4 trim boards on the corners of the sidewalls. Cut length to fit.

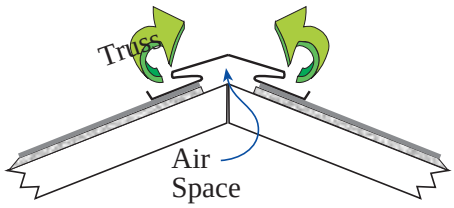




Step 20 Install Roofing — Not Supplied in Kit

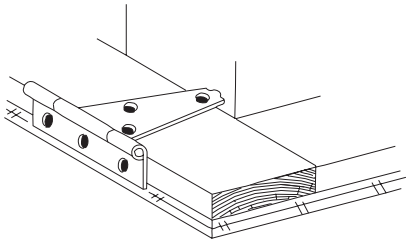
Install metal roof edging perimeter of the roof area. If you are not installing shingles at this time, you can purchase felt paper to protect the sheathing. Install the felt paper before you install the metal roof edge.

Install shingles according to the instructions on the wrapper. If you need more detailed instructions on installing shingles, there are good publications at book stores or newsstands.

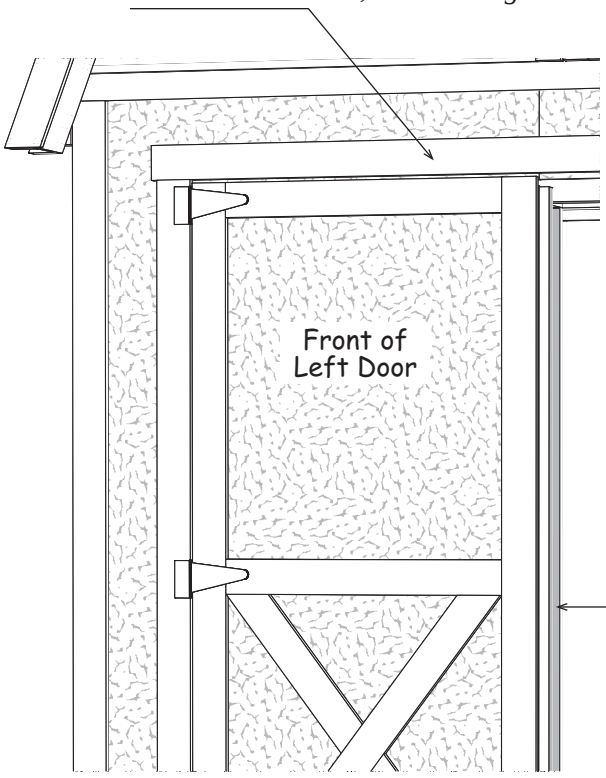


Optional ridge vent provides ideal ventilation.

Step 21 Install Doors



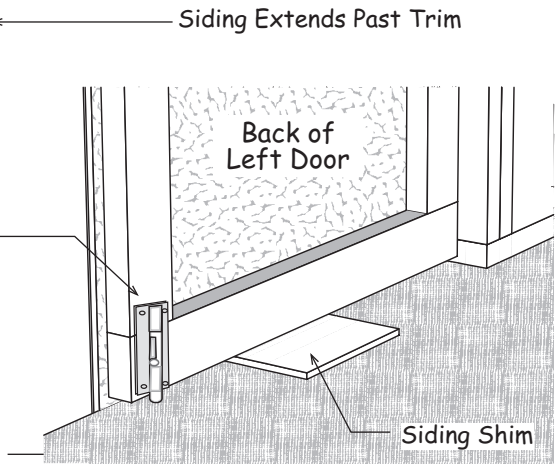
1. Lay the left door with the trim facing up. The siding on the left door extends past the door trim. See detail below.
2. Install 5" hinges to the left side of the door frame. To position the hinge properly, hold the rectangular plate against the frame. Use 1-3/4" black screws.
3. Install hinges to the right side of the other door.
4. Install lx4x76-3/4" trim boards along each side of the door opening. Tack these boards with a couple nails; you may want to move the trim later when you install the doors.
5. Install a 1x4x81-3/4" board, *that has angle cuts on both ends*, over the door opening.



Before you fasten the hinges to the door trim, temporarily prop the doors in the opening. *Tip; set the door stop on a piece of siding to help hold the door in place*. Leave a space between the doors and the side trim to allow room for the doors to expand when they absorb moisture.

If your door opening is out of square, the space around the doors will not be even. You can reposition the side trim to make allowances for this. The side trim does not have to be flush with the frame of the door opening. You can move the trim in or out to make the door spacing equal.

Secure hinges to trim with 1-3/4" screws.



6. Install a barrel bolt, on the lower back of the door to secure this door in place when closed. Drill a hole for the round shaft to drop into.
7. Install another bolt at the top of the door.
8. Install door latch.

Homestead 12'x 16' Barn kit — Packing List — 27-Jul-2014

Qty.	Description	Size
	2x4 Framing	
31	Wall Studs black ends	84 "
2	Wall Stdus w/ Door Jack Attached	84 "
12	Wall Plates	72 "
10	Loft Floor Joist	66 1/4"
2	Tie Plate Material	48 "
2	Gable Studs	45 "
4	Gable Studs angle cut	40 3/4
4	Gable Studs angle cut	30 3/4
	2x6 Framing	
2	Door Header	75 "
2	Beam Material	72 "
4	Beam Material	68 1/2"
4	Beam Material *w/notch*	36 "
	2x3 Framing	
9	Truss Ridge Blocks	31 3/4"
	Miscellaneous Lumber	
10	24 Blocks for Truss Jig	10" to 12"
1	OSB Door Header Filler	5" x 75"
14	Wood Gussets for Trusses	9" x 32"
2	Gable Siding - Angle Cut	48" wide x 55"
4	Gable Siding - Angle Cut	24" wide x 36"
2	Siding Along Door Opening	12" wide x 87-3/4"
2	Siding Above Door Opening	36" wide x11-3/4"

Qty.	Description		Size
	White Pine Trim		
4	1x4 End Wall Trim		72 "
4	1x4 Gable Trim		61 "
4	1x4 Gable Trim		42 1/2"
8	1x4 Corner Trim		84 "
1	1x4 Door Trim		81 3/4"
2	1x4 Door Trim		76 3/4"
	Pre-built Components		
18	Pre-built Truss Halves		
6	3-1/2" x 65-3/4" Pre-built Soffit Boards		
2	36" x 76" Pre-built Barn Doors		
	Hardware		
5	lb. 10d Sinkers	32	7/16" Plyclips
3	lb. 8d Galv.	2	Bottle Glue
3	lb. 7d Sinkers	84	Black Screws
3	lb. 6d Common	24	Truss Hangers
1	lb. 6d Galv.	1	Door Hasp
2	lb. Hanger Nails	2	Barrell Bolts
13	1x4 Drive-on Plate	100	Wood Screws
5	2x4-4" Blocks	6	5" Door Hinges
2	7/16" Loft Floor Fillers	3-1/2" x 48"	
	7/16" OSB Sheathing		
2	48" x 72"	1	13" x 48"
2	13" x 72"		

Material Supplied by Local Supplier		
12 pcs.	Exterior Siding	4x8
12 pcs.	OSB Sheathing	4x8
2 pcs.	2x4 12' Wall Plates	
4 pcs.	2x4 16' Wall Plates	

Material by Owner

Qty.	Optional Shingles
12 bdl.	Roof Shingles
8 pcs.	Roof 'drip' Edge 10'
1 roll	Felt Paper - *optional*